

IN THE CLAIMS

1. (Currently Amended) A method for restoring a damaged rail seat located on a concrete rail tie, which comprises

providing said concrete rail tie, said damaged rail seat being located on the upper surface of said concrete rail tie;

applying a polymeric material comprising a poly (urethane-urea) material to the damaged rail seat located on the upper surface of said concrete rail tie, said poly (urethane-urea) material being formed employing compounds consisting essentially of (a) at least one polyol compound, (b) at least one amine compound, and (c) an isocyanate compound;

contouring the polymeric material applied to said damaged rail seat on the upper surface of the concrete rail tie to form a contoured damaged rail seat having substantially the original dimensions of an undamaged rail seat, the contoured damaged rail seat being substantially sag resistant and maintaining its shape without substantial runoff from the concrete rail tie during said contouring of the polymeric material; and

restoring the contoured damaged rail seat on said concrete rail tie by curing the polymeric material under ambient temperature and pressure conditions to form a restored rail seat, the polymeric material restored rail seat being substantially sag resistant and maintaining its shape without substantial runoff from the concrete rail tie during said restoring of the damaged rail seat, wherein when the rail ties are restored, the restored rail seat is properly bondable to an abrasion plate and maintains the gauge of a rail assembly under dynamic operating conditions.

2. (Original) The method of claim 1, wherein the damage rail seat is restored without requiring the use of non-ambient heat.

3. (Original) The method of claim 1, wherein the damage rail seat is restored without requiring the use of non-ambient pressure.

4. (Original) The method of claim 1, wherein the Gel Time of the polymeric material is not more than about five seconds.

5. (Original) The method of claim 1, wherein the Gel Time of the polymeric material is not more than about one second.

6. (Currently Amended) The method of claim 1, wherein the Set Time of the polymeric material is sufficient for contouring the ~~restored polymeric material applied to the damaged~~ rail seat in situ without requiring the use of non-ambient heat.

7. (Original) The method of claim 1, wherein the polymeric material is cured at a temperature as low as 45 °F.

8. (Original) The method of claim 1, wherein the modulus of the restored rail seat is increased to a level which will resist compressive loading and maintain the rail gauge of the rail assembly.

9. (Previously submitted) The method of claim 1, wherein the Elongation of the polymeric material is at least about 10% or higher.

10. (Original) The method of claim 1, wherein the Shore D (24 hour) Hardness of the restored rail seat is at least about 65.

11. (Currently Amended) A method for restoring a damaged rail seat located on a concrete rail tie, which comprises

providing said concrete rail tie, said damaged rail seat being located on the upper surface of said concrete rail tie;

applying a polymeric material comprising a poly (urethane-urea) material to the damaged rail seat located on the upper surface of said concrete rail tie, said poly (urethane-urea) material being formed employing compounds consisting essentially of (a) at least one polyol compound, (b) at least one amine compound, and (c) an isocyanate compound;

contouring the polymeric material applied to said damaged rail seat on the upper surface of the concrete rail tie to form a contoured damaged rail seat having substantially the original

dimensions of an undamaged rail seat, the contoured damaged rail seat being substantially sag resistant and maintaining its shape without substantial runoff from the concrete rail tie during said contouring of the polymeric material; and

restoring the contoured damaged rail seat on said concrete rail tie by curing the polymeric material under ambient temperature and pressure conditions to form a restored rail seat, the polymeric material restored rail seat being substantially sag resistant and maintaining it's shape without substantial runoff from the concrete rail tie during said restoring of the damaged rail seat, the restored rail seat is properly bondable to an abrasion plate and having has a modulus which is increased to a level which will resist compressive loading and maintain the rail gauge of thea rail assembly.

12. (Original) The method of claim 11, wherein the damage rail seat is restored without requiring the use of non-ambient heat.

13. (Original) The method of claim 11, wherein the damage rail seat is restored without requiring the use of non-ambient pressure.

14. (Original) The method of claim 11, wherein the Gel Time of the polymeric material is not more than about five seconds.

15. (Original) The method of claim 11, wherein the Gel Time of the polymeric material is not more than about one second.

16. (Currently Amended) The method of claim 11, wherein the Set Time of the polymeric material is sufficient for contouring the restored polymeric material applied to the damaged rail seat in situ without requiring the use of non-ambient heat.

17. (Original) The method of claim 11, wherein the rail ties having the restored rail seat maintains the gauge of a rail assembly under dynamic operating conditions.

18. (Original) The method of claim 11, wherein the polymeric material is cured at a temperature as low as 45 °F.
19. (Previously presented) The method of claim 11, wherein the Elongation of the polymeric material is at least about 10% or higher.
20. (Original) The method of claim 11, wherein the Shore D (24 hour) Hardness of the restored rail seat is at least about 65.
21. (Previously presented) A method for restoring a damaged rail seat located on a concrete rail tie, which comprises
- providing said concrete rail tie, said damaged rail seat being located on the upper surface of said concrete rail tie;
- applying a polymeric material comprising a poly (urethane-urea) material to the damaged rail seat located on the upper surface of said concrete rail tie, said poly (urethane-urea) material being formed employing compounds consisting essentially of (a) at least one polyol compound, (b) at least one amine compound, and (c) an isocyanate compound;
- contouring the polymeric material applied to said damaged rail seat on the upper surface of the concrete rail tie to form a contoured damaged rail seat having substantially the original dimensions of an undamaged rail seat, the contoured damaged rail seat being substantially sag resistant and maintaining its shape without substantial runoff from the concrete rail tie during said contouring of the polymeric material; and
- restoring the contoured damaged rail seat on said concrete rail tie by curing the polymeric material under ambient temperature and pressure conditions to form a restored rail seat, the polymeric material restored rail seat being substantially sag resistant and maintaining its shape without substantial runoff from the concrete rail tie during said restoring of the damage rail seat, without requiring the use of non-ambient heat and pressure, wherein when the rail ties are restored, the restored rail seat maintains the gauge of a rail assembly under dynamic operating conditions, properly bonds to an abrasion plate, and has a modulus which is increased to a level which will resist compressive loading and maintain the rail gauge of a rail assembly.

22. (Currently Amended) The method of claim 1, wherein the poly(urethane-urea) material consists essentially of comprises (a) at least one polyol compound a hydroxyl capped polyol and/or a hydroxyl chain extender, (b) at least one amine compound an amine capped polyether and/or an amine chain extender, and (c) an isocyanate compound.

23. (Currently Amended) The method of claim 11, wherein the poly(urethane-urea) material consists essentially of comprises (a) at least one polyol compound a hydroxyl capped polyol and/or a hydroxyl chain extender, (b) at least one amine compound an amine capped polyether and/or an amine chain extender, and (c) an isocyanate compound.

24. (Currently Amended) The method of claim 21, wherein the poly(urethane-urea) material consists essentially of comprises (a) at least one polyol compound a hydroxyl capped polyol and/or a hydroxyl chain extender, (b) at least one amine compound an amine capped polyether and/or an amine chain extender, and (c) an isocyanate compound.